

excess claims fees are believed to be applicable.

Marked up pages containing the Claim amendments are enclosed in pages headed "Version to Show Changes Made".

The first outstanding issue is the rejection of Claims 1-3, 5, 10 and 14-19 under 35 U.S.C. 103(a), as being obvious in view of Murphy.

Notably, Claim 4 is absent from this rejection.

Claim 4 is directed to the support being in the form of a "fibre". According to the canons of claim construction, the word "fibre" is construed in the singular as well as in the plural. This construction is also supported by our Specification, which discloses the use of both single and multiple fibers.

Independent Claims 1 and 10 are now restricted to the use of multiple fibers.

Specifically, the independent apparatus claim 1 has been amended to include the content of original claims 2 and 4 and to further restrict the extraction means to a solid support in the form of multiple fibers. The Examiner seems to recognize this distinction from Murphy, since Claim 4 is not included in this rejection.

Similar amendments have been made to Claim 10, so that claim 10 is essentially of the same scope as claim 1.

Support for the "multiple fibers" amendment is found in our Specification, for example, at page 5, line 26, and at page 6, line 16.

Support for new Claims 20 to 25 is found in our Specification for example, for claim 20 at page 5, lines 13-14; for claim 21 at page 5, line 31 to page 6, line 2; for claim 22 at page 6, line 17; for claim 23 at page 5, lines 13-14; claim

24 at page 7, line 28; and for claim 25 at page 5, line 9.

Accordingly, the Examiner will readily appreciate that this amendment overcomes the 103(a) issue respecting Murphy alone, as set out in paragraph 4. of the Final action.

The second, and only other issue, is that Claims 1-5 and 7-19 stand rejected under 35 U.S.C. 103(a), as unpatentable over Pawliszyn in view of Murphy.

The Examiner has admitted that Pawliszyn "fails to teach chemical desorption or desorption into a microvolume" of solvent.

The Examiner also seems to recognize in section 10. of the Final Action., that the use of "multiple fibers", ie. , for simultaneous multiple extractions, is neither taught nor suggested in Pawliszyn. By this amendment, Claims 1 and 10 have now been restricted thereto.

Accordingly, Pawliszyn is further deficient from our claimed invention.

Looking at these deficiencies, and particularly in view of the restriction to the use of multiple fibers, Applicants continue to assert that Murphy does not bridge the gap acknowledged by the Examiner.

Specifically regarding the further deficiency now recited in amended Claims 1 and 10, as the Examiner appreciates ie in the Final Action in section 3., fourth paragraph, that in Murphy, a fiber (or multiple fibers) is(are) not used to extract the target analytes from the sample.

Accordingly, Murphy's apparatus operates in quite a different and indeed a non-analogous manner to either Pawliszyn or our invention.

The Examiner also recognizes that Murphy is further deficient in that in

section 6., of the Final Action she states that Murphy "failed to explicitly teach that the sample vial is sealed or that a microvolume is used". This is a further indication that Murphy is in fact non-analogous prior art.

Regarding the "means for shielding the [support] fibers from the atmosphere" as recited in amended Claim 5, for the reasons of record in the Response to Final, we continue to emphasize that no equivalent means is described in Murphy. As the Examiner points out Murphy discloses a needle surrounding the coating. However, since the coating is on the inside of the hollow needle, when the solvent is removed, the entire coating is exposed to the atmosphere. To further distinguish over Murphy, Claim 5 has been amended to specify that the fibers are drawn up inside the shield ie to shield the fiber and/or its coating, from the atmosphere. Support for this language is found in our Specification e.g. at page 5, lines 7-9. A new method-type claim 25 of corresponding scope has been added to specifically cover this feature of the invention.

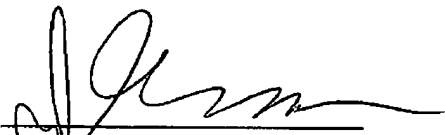
Respectfully submitted,



J. Wayne Anderson
Patent Agent for Applicant
Regn No: 28,158
National Research Council Canada
Tel: (613) 993-3899

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office on the date shown below.


J. Wayne Anderson

May 13, 2003

~~May 8, 2003~~

MAY 13 / 2003

WA

MARKED-UP VERSION SHOWING CHANGES MADE

1. (thrice amended) An apparatus for carrying out solid phase microextraction of target analytes included in a fluid or a solid sample, comprising gas tight enclosure means for receiving the sample before the enclosure is made gas tight, means located within the enclosure means for extracting the target analytes from the sample, and means located outside of the enclosure means for chemically desorbing the target analytes by solvent extraction by a micro-volume of solvent, wherein the extraction means includes a solid support in the form of multiple fibres which may be coated or uncoated, the fibres and/or the coating being selected, based upon selectivity of the fibres and/or coating for at least one of the analytes present in the sample, and wherein the extraction means either samples a head space near the sample or samples the sample directly.

5. (amended) An apparatus according to Claim [3] 1, additionally comprising means for shielding the [cylindrical support] fibers from the atmosphere, such that the fibers are drawn up inside the shield means.

7. (twice amended) An apparatus according to Claim [4] 1, wherein the coating is an organic material selected from the group consisting of polyethyleneglycol and methoxy polyethyleneglycol, silicone, polyimide, divinylbenzene, polyacrylate, carbon-based sorbents and ion-exchange materials.

8. (amended) An apparatus according to Claim [4] 1, wherein the [solid support is] fibers are of a material selected from the group consisting of fused silica, graphite, solid polymers and metals .

9. (amended) An apparatus according to Claim [4] 1, wherein the [fibre is] fibres are of fused silica, and the coating is of silicone.

10. (twice amended) A method for solid phase micro extraction of analytes included in a fluid or a solid sample, comprising
- (a) exposing a fluid or a solid sample including target analytes in a gas-tight enclosure, to a solid support in the form of multiple fibers which may be coated or uncoated, the [support] fibers and/or the coating being selected based upon selectivity of the [support] fibers and/or coating for at least one of the analytes in the sample, for a sufficient time to permit chemical extraction of the analytes by the [support] fibers to occur, wherein the multiple fibers either samples a head space near the sample or samples the sample directly, and
 - (b) ending said [contact] exposure and then placing said solid support into a micro volume of solvent where chemical desorption of the analytes from the support occurs.
15. (amended) A method according to Claim [12] 10, wherein the solvent is a suitable organic solvent.
16. (amended) A method according to Claim 10, wherein the chemical extraction is by absorption or adsorption of the target analyte by the [solid support] fibers or coating.
16. (amended) A method according to Claim 10 wherein the [support is] fibers are uncoated.
17. (amended) A method according to Claim 16, wherein the [support is] fibers are of fused silica.